UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TEXAS 75202-2733

March 20, 2013

MEMORANDUM

SUBJECT: Request for EPA Region 6 Dive Team Support
San Jacinto River Waste Pits Superfund Site, Harris County, Texas

FROM: Valmichael Leos, Federal On-Scene Coordinator (OSC)
Emergency Readiness Section (6SF-PE), Superfund Division

THRU: Susan Webster (Section Chief)
Removal Section (6SF-PR), Superfund Division

TO: Bill Luthans (Unit Dive Officer)
Brandi Todd (OSC)

The San Jacinto River Waste Pits superfund (Site) Team is requesting the EPA Region 6 Dive Team's support during the post construction monitoring and maintenance program along with future remedial investigations (RI) for the Site. The purpose of the support is to complement and verify the water- and land-based survey results and periodic visual inspections conducted to ensure the physical integrity of the armor cap placed over the waste pits at the Site. In July of 2011 an engineering cap was designed and constructed over a 20-acre parcel of land on the western bank of the San Jacinto River, immediately north of the Interstate Highway 10 (I-10) bridge.

Historical information about this Site includes both remedial and removal sampling, design, construction, post-construction, and inspection documentation.

The dive team's support would verify the respondents' hydrographic surveys results and would complement the land based visual inspections. The underwater surveys and photography would document any erosion of the engineered cap post construction or possibly discover any other contamination in the river. Figure 1 depicts the map location of the Site. Figures 2 (Post construction of the cap), and 3 (hydrographic survey results) depict images of the Site, engineered cap, and most recent survey conducted by the respondents.

Background

The Site is comprised of an area of land with a set of two waste ponds with three surface impoundments built in the 1960s for the disposal of pulp and paper mill wastes. The waste paper

sludge was placed in the two ponds on the Site. Waste pond 1 is located on the western portion of the Site totaling 132,386 square feet. Waste pond 2 which consists of two surface impoundments are on the eastern portion of the Site totaling 46,182 square feet and 188,641 square feet respectively.

The primary hazardous substances documented at the Site are polychlorinated dibenzo-pdioxins and polychlorinated dibenzofurans. At the time of the signing of the Action Memo in July of 2011, dioxin concentrations as high as 41,300 parts per trillion have been found in sediment samples collected from the Site's disposal pond areas and from river sediments near the Site. Sediments contaminated with high levels of dioxin have been found in the San Jacinto River both upstream and downstream from the Site due to tidal influences. Additional sediment samples were collected in compliance with the Action Memo, dioxin concentrations as high as 360,000 parts per trillion have been found in sediment samples collected from the submerged portion of the waste disposal ponds as well as dioxin concentrations as high as 3,660 parts per trillion action level in sediment samples collected outside the original 1966 berm placement.

In July of 2010, the EPA considered a variety of removal options that would best temporarily abate the release of dioxin into the San Jacinto River. EPA choose "TCRA Alternative 3" with modifications which involves the design and construction of an engineered cap over the waste pits. The temporary armor cap was completed by the respondents with EPA oversight in July of 2011, and in accordance with the Operational, Maintenance, and Monitoring (OMM) plan, periodic visuals inspections began in January of 2012.

Dive Team Considerations

The areas proposed to be investigated by the dive team involve portions of the armor cap perimeter in the San Jacinto River. One area of particular concern is the "Northwestern" portion of the armor cap perimeter. Due to the water depth and sharp change in underwater elevation, special considerations were taken during the design and placement of the armor cap material. Due to the nature of the topography along the Northwestern portion of the cap, there is a greater concern of erosion that may occur. The water depths in the river range from 5 to 25 feet below ground surface. The water in all of these areas is murky (*i.e.*, high suspended solids), with less than 6 feet of visibility. The water in the San Jacinto River may exhibit strong currents in certain areas. The northwestern and western portions of the site have less currents and not subject to river navigation concerns, while the northern and northeastern portions of the perimeter is in close proximity to river navigation of barges and recreational boats and is subject to high river currents.

At the time of the signing of the Action Memo in July of 2010, dioxin concentrations as high as 41,300 parts per trillion have been found in sediment samples collected from the Site's disposal pond areas and from river sediments near the Site. Sediments contaminated with high levels of dioxin have been found in the San Jacinto River both upstream and downstream from the Site due to tidal influences. Additional sediment samples were collected in compliance with the Action Memo, dioxin concentrations as high as 360,000 parts per trillion have been found in sediment samples collected from the submerged portion of the waste disposal ponds as well as dioxin concentrations as high as 3,660 parts per trillion action level in sediment samples

collected outside the original 1966 berm placement for the two waste ponds indicating the release of dioxin from the original location of the waste ponds.

Hydrographic Surveys and manual probing (Water- and Land-Based)

Since January 2010, there have been five hydrographic surveys and visual inspections have been conducted by the respondents in accordance with the EPA OMM plan. Bathymetric surveys are performed for the portions of the armor cap below the water surface and accessible by boat. The surveyors follow track line spacing, measurement intervals, and accuracy requirements detailed in the OMM plan. Manual probing surveys as more than 6 inches lower in elevation that during the prior survey over contiguous areas of 30 foot by 30 foot. Further detail about the conclusions of the surveys is available for review.

Summary of Proposal

The EPA is requesting the dive team's support to complement and verify the hydrographic and visual inspection survey results conducted by the respondents for the Site, and determine there are any underwater erosion issues occurring along the perimeter of the armor cap along the San Jacinto River. Current visual inspections are limited to above ground portions of the armor cap and areas of the cap that can observed under low tide conditions.

The Site Team will continue briefings with management in order to determine the full scope of the project. Please call Valmichael Leos of my staff, at extension x2283, to continue a discussion concerning the proposed dive team's support for the Site's remedial and removal activities.

Attachments (Figures 1, 2, and 3)